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File: USPT

Jun 29, 1999

DOCUMENT-IDENTIFIER: US 5918217 A

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TITLE: User interface for a financial advisory system

Detailed Description Text (16):

FIG. 3 is a simplified block diagram illustrating a financial analysis system 300 in which one embodiment of the present invention may be used. Generally, the financial advisory system 300 includes a simulation module 340 which receives input data from a user interface (UI) 360 and provides data, such as probability distributions, to the UI 360. The simulation module may include a simulation engine for empirically generating draws from a random distribution. According to the embodiment depicted, the simulation module 340 further includes a pricing module 310, a factor module 320, a style analysis module 330, and a portfolio optimization module 350.

Detailed Description Text (20):

The portfolio optimization module 350 may determine one or more optimal portfolios based on input provided to financial advisory system 300 via UI 360. Portfolio optimization may be performed in any manner known in the art and is not central to the present invention. Importantly, the simulation module 340 may reside on a server or on the same computer upon which the UI 360 resides. As will be described in further detail below, the UI 360 may include various mechanisms for data input and output to provide the user with a means of interacting with and receiving feedback from the financial advisory system 300, respectively.

Detailed Description Text (27):

Based upon the decisions, the portfolio optimization module 350 produces a recommended set of financial products and the simulation engine projects the outcomes of holding the specific financial products recommended. Area 420 organizes all the output values relating to the recommended set of decisions and financial products in one place. For example, in one embodiment, graphical representations of the output values are grouped together in a predefined portion of the display that is separate from the decisions and the recommended financial products. The output values are made available to users to allow them to arrive at a set of financial products that satisfy their objective functions. For example, some individuals have a need to have a certain amount of money in the future and others may have a need to avoid short-term losses. Generally what is meant by objective function is a criterion that an individual considers important in making a decision. In various embodiments of the present invention, the output values may include: the cumulative probability of reaching a predetermined goal, the most likely value of a given portfolio at some future point in time, the financial loss that might occur with a 5% probability within the next 12 months, and various other statistics based on the probability distribution employed by the simulation engine.

Detailed Description Text (31):

Areas 410, 420, and 430 may be tied together by the simulation engine and the portfolio optimization module 350. For example, the portfolio optimization module 350 may produce an optimal set of financial products for a given set of decisions. Further, the simulation engine may connect the decisions to the results by projecting the outcomes of owning the set of financial products recommended by the

portfolio optimization module 350.

Detailed Description Text (43):

Returning to the present example, as depicted in FIG. 6A, the risk slider bar 605 has its slider 615 positioned in a left most setting 601. The left most setting 601 corresponds to the volatility associated with the lowest volatility mix of financial products in the set of available financial products. In this example, the current volatility 610 of the risk slider 605 is 0.3.times., indicating that the volatility associated with the current setting of the risk slider bar 615 is 30% of the volatility of the predefined volatility. As discussed below, the volatility of the financial products recommended by the portfolio optimization module 350 corresponds to the current setting of the risk slider 601.

Detailed Description Text (80):

Assuming the user increases the risk, FIG. 12B represents an exemplary state of screen 1200 subsequent to receipt of a new decision variable value from the risk slider bar 1210 and after the screen 1200 has been updated with the new optimal allocation provided by the portfolio optimization module 350. The risk slider bar 1210 now has a volatility measure of 1.25.times. and the bar chart 1230 indicates the recommended financial product allocation corresponding to the updated risk tolerance value. The new allocation suggests 38% of the user's contributions be allocated to financial product 1224, 25% to financial product 1225, and 37% to financial product 1226.

Detailed Description Text (83):

It may be the case that the user wants to modify the set of recommended financial products. For instance, desiring to hold more or less of a financial product than was recommended. In this event, the user may modify the recommendation thereby causing the system to update the recommended financial products taking into account the user's modification. Another mechanism, referred to as a user constraint, is provided by the UI 360 to allow the user to express his/her utility function by modifying the recommended allocation provided by the system. Generally, a user constraint acts as another decision input. More particularly, a user constraint provides the user with the ability to constrain the holdings of one or more financial products by manipulating the recommended financial products. In one embodiment, responsive to receiving the constraint, the portfolio optimization module 350 optimizes the remaining unconstrained financial products such that the portfolio as a whole accommodates the user's constraint(s) and is optimal for the user's level of risk tolerance. For example, the user may express his/her desire to hold a certain percentage of a particular financial product in his/her portfolio or the user may express his/her preference that a particular financial product not be held in his/her portfolio. Upon receiving the constraint, the portfolio optimization module 350 determines the allocation among the unconstrained financial products such that the recommended portfolio as a whole has the highest utility. Advantageously, in this manner, individuals with utility functions that are different than mean-variance efficient are provided with a mechanism to directly manipulate the recommended financial products to communicate their utility functions.

Detailed Description Text (86):

FIG. 14A depicts an exemplary state of a screen 1400 prior to receipt of a constraint. In this example, screen 1400 includes a bar chart 1430 depicting the current allocation of wealth among a set of financial products 1220-1227. FIG. 14B illustrates an exemplary state of screen 1400 after the user has imposed a constraint upon one of the financial products and after the screen 1400 has been updated with the new optimal allocation provided by the portfolio optimization module 350. In this example, the user has constrained the allocation of wealth to financial product 1223 to 18%. According to the embodiment depicted, after the graphical segment is locked (step 1330), a lock 1450 is displayed to remind the user of the constraint.

Detailed Description Text (89):

According to one embodiment of the present invention, during an initial session with the financial advisory system 100, the user may provide information regarding risk preferences, savings preferences, current age, gender, income, expected income growth, current account balances, current financial product holdings, current savings rate, retirement age goal, retirement income goals, available financial products, intermediate and long-term goals, constraints on fund holdings, liabilities, expected contributions, state and federal tax bracket (marginal and average). The user may provide information for themselves and each profiled person in their household. This information may be saved in one or more files in the financial advisory system 100, preferably on one of the servers to allow ongoing plan monitoring to be performed. In other embodiments of the present invention additional information may be provided by the user, for example, estimates of future social security benefits or anticipated inheritances.

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